US Army Corps
of Engineers
HUNTSVILLE ENGINEERING
AND SUPPORT CENTER

DRAFT

Defense Environmental Restoration Program
for
Formerly Used Defense Sites
Ordnance and Explosives

ARCHIVES SEARCH REPORT

CONCLUSIONS AND RECOMMENDATIONS

Weepecket Islands-U.S. Navy Bombing Practice Area

Gosnold, Massachusetts

Project Number - D01MA056701

SEPTEMBER 1997

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

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1.0 INTRODUCTION

1.1 AUTHORITY

In 1986, Congress established the Defense Environmental Restoration Program (DERP) at 10 United State Code (USC) 2701 et seq. This program directed the Secretary of Defense to "carry out a program of environmental restoration at facilities under the jurisdiction of the Secretary."

In March, 1990, the Environmental Protection Agency (EPA) issued a revised National Contingency Plan (NCP). Under 40 Code of Federal Regulations (CFR) 300.120, EPA designated the Department of Defense (DoD) to be the removal response authority for incidents involving DoD military weapons and munitions under the jurisdiction, custody and control of DoD.

Since the beginning of this program, the U.S. Army Corps of Engineers has been the agency responsible for environmental restoration at Formerly Used Defense Sites (FUDS). Since 1990, the U.S. Army Engineering and Support Center, Huntsville (CEHNC) has been the Mandatory Center of Expertise (MCX) and Design Center for Ordnance and Explosives.

1.2 SUBJECT

Weepecket Islands-U.S. Navy Bombing Practice Area consisted of estimated 1.8 acres of land in the Elizabeth Islands off the southern coast of Massachusetts, in Dukes County. Sometime between September 1941 and December 1943, the Federal Government established a 1,000 yard radius, danger zone at latitude 41° 31′ 06″ and longitude 70° 44′ 06″ in Buzzard's Bay in the area of the three Weepecket Islands. The middle island served as a practice bombing, rocket and gunnery target area for the First Naval District, particularly Naval Air Station Quonset Point and its auxiliaries. Effective on 28 December 1957, the Federal Government revoked the danger zone around the Weepecket Islands, ending authorized usage of the range. The archive search site inspection team identified ordnance debris from miniature practice bombs and 2.25-inch practice rockets, though research indicates that parachute flares and small arms from aircraft machine guns were also used. Plate 1 in the report plates section shows the general location of the site.

1.3 PURPOSE

The Archives Search Report (ASR) compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with Weepecket Islands-U.S. Navy Bombing Practice Area or its operations and a team inspection of the site. The search directs efforts towards determining possible use or disposal of ordnance and explosives (OE) and chemical warfare materials (CWM) on the site. The research places particular emphasis on establishing the types, quantities and area of disposal. This process obtains information for use in developing recommendations for further action at the former Weepecket Islands-U.S. Navy Bombing Practice Area.

1.4 SCOPE

This investigation focuses on potential OE and/or CWM contamination remaining on the former Weepecket Islands-U.S. Navy Bombing Practice Area. The DERP-FUDS project number is D01MA056701. This report presents the following:

- A brief history of Weepecket Islands-U.S. Navy Bombing Practice Area
- Description and characteristics of the immediate surrounding area
- A review of related site investigations
- An aerial photography and map analysis of the site
- Real estate information, past and present
- Findings of the site inspection
- Description of the OE and/or CWM identified with the site

These factors represent the basis for the evaluation of potential OE and CWM contamination and associated risks at Weepecket Islands-U.S. Navy Bombing Practice Area.

2.0 CONCLUSIONS

2.1 SUMMARY OF CONCLUSIONS

2.1.1 Conventional Ordnance

The archive search located evidence confirming that the Navy Department used **Weepecket Islands-U.S. Navy Bombing Practice Area** for bombing, rocketry and gunnery practice. The types of conventional ordnance identified with the site included: miniature practice bombs, 2.25-inch practice rockets, parachute flares and small arm machine gun rounds. The Navy fired and dropped this ordnance at the site's target area within the designated 1,000 yard danger zone.

The site inspection verified the use of the above listed items by locating associated OE debris. The potential explosive hazard consists of explosive contaminated scrap metal and malfunctioned (dud) ammunition. The archive search found no direct evidence of HE use. However, negative evidence (i.e. based on not finding something) is not irrefutable proof of no other OE usage.

2.1.2 Chemical Warfare Materials

The archive search uncovered no evidence that chemical warfare training occurred or that the Navy Department stored, used or disposed of chemical warfare materials at Weepecket Islands-U.S. Navy Bombing Practice Area. No identifiable remediation project exists concerning CWM at the site and the ASR concludes no further action required for this portion of the project.

2.2 HISTORICAL SITE SUMMARY

During World War II, the U.S. Navy began using **Weepecket Islands - U.S. Navy Bombing Practice Area**. It served as a practice bombing, rocket and gunnery target area for the First Naval District, particularly Naval Air Station (NAS) Quonset Point and its auxiliaries. Sometime between September 1941 and December 1943, the Navy acquired a leasehold on the property and the Federal Government established a 1,000 yard radius, danger zone. The danger zone centered on a rock, northeasterly of the main Weepecket Island, at latitude 41° 31′ 06″ and longitude 70° 44′ 06″. Only one target was noted within the danger zone, referred to as **Target A** during the war. It was a 250 yard radius circle around the "southernmost islet, northeast of the main island" (i.e., the middle island) at latitude 41° 31′ 04″ and longitude 70° 44′ 08″.

Effective 28 December 1957, the Federal Government revoked the danger zone around the Weepecket Islands, ending authorized usage of the range. Since then, the Weepecket Islands have remained an uninhabited nature preserve of the J.M. Forbes Naushon Island Land Trust.

The research team did not find any historical documentation specifying the types or quantities of ordnance at this range. Accounts by neighboring residents attest to the Navy's use for practice bombing, rocket and machine gun firing. Additionally, on at least two occasions, 9 December 1943 and 13 March 1945, Naval aircraft dropped parachute flares, which started fires when they accidently struck nearby Naushon Island. As early as 1946, neighboring residents of Naushon Island voiced concerns about the Navy's use of the range and the associated fires. In 1954, residents revived concerns, particularly about "dropping heavy machine gun cartridges in areas frequented by children" and "firing rockets aimed to pass near occupied houses." The First Naval District addressed the concerns of local residents on 3 November 1954, when they limited use to inert type bombing, with no rocket or machine gun firing and redirected flight lines not to pass over Naushon Island. They also reduced the time use period to the "winter months from 1 November through 31 May".

The archive search site inspection team identified ordnance debris from miniature practice bombs and 2.25-inch practice rockets on the island but did not find OE debris from parachute flares or small arms.

The archive search did not locate any documentation relating to CWM activities at the Weepecket Islands - U.S. Navy Bombing Practice Area, Massachusetts. There was no information available on the storage, use or disposal of chemical warfare materials at the islands.

2.3 REAL ESTATE

The former Weepecket Islands-U.S. Navy Bombing Practice Area was a 1,000 yard radius danger zone in Buzzard's Bay, Massachusetts. The target inside this mostly water covered danger zone consisted of a rock on the middle island of the three Weepecket Islands. The middle island is roughly 200 by 400 feet at low tide or an estimated 1.8 acres. The Navy acquired this acreage from the J.M. Forbes Naushon Island Land Trust. In late 1957, the Federal Government revoked the danger zone around the Weepecket Islands, thus ending military use of the area. The archive search did not locate the details of any real estate agreement with the J.M. Forbes Naushon Island Land Trust.

The 1.8 acre estimate differs from the 0.1 acre value stated in the INPR. The difference apparently results from estimating the size of only the target boulder and not the entire middle island. The real estate information concurs otherwise.

The archive search did not identify any additional areas of potential or undocumented military ownership or land use associated with Weepecket Islands-U.S. Navy Bombing Practice Area.

This investigation did not reveal any significant past ownership of Weepecket Islands-U.S. Navy Bombing Practice Area with relationship to OE or CWM.

Records reviewed indicate the current property owner remain the J.M. Forbes Naushon

Island Land Trust.

2.4 SITE INSPECTION

George Sloan, III and Randal S. Curtis, of the St. Louis District Corps of Engineers, performed a site inspection of the former Weepecket Islands-U.S. Navy Bombing Practice Area on 27 August 1997. Appendix I of the Findings Volume of this ASR includes present site photographs, and section L-2 includes the trip report memorandum from the site inspection. The following paragraphs contain a synopsis of the site inspection.

The team left New Bedford Airport via the Bayside Air Seaplane charter at 0800 for Cuttyhunk Island. They arrived there thirty minutes later and met with Sandy Brown, who agreed to ferry the team to the Weepecket Islands, following a site inspection of an another FUDS in the area (i.e. Gull Island-U.S. Navy Bombing Practice Area). Bill Jenkins, the Cuttyhunk Island Deputy Sheriff had originally planned to accompany the team, but was not available.

The team traveled up Buzzard's Bay to the Weepecket Islands, arriving at the middle (target) island at approximately low tide, 1030. The middle Weepecket Island is the center of the established 1,000 yard radius, danger zone as shown on the historic navigation charts. It has no soil or vegetation and primarily consists of gravel and cobbles up to 16 inch diameters, with occasional boulders making up about 5% of the land surface. The center third of the island resides above high tide approximately 5 feet and is whitened by gull dung. One particularly large boulder, about 30 feet in diameter, 15 feet tall, is the most prominent feature of the island. The site inspection felt this natural feature probably served as the target center.

The team found ordnance debris with the majority of it being concentrated on the center of the island. These items were heavily corroded from the salt water making positive identification difficult. The team's best estimate of the types of ordnance debris found are:

bombs, miniature practice, AN-MK23 (cast iron)
rocket, 2.25-inch practice (motors)

None of the items found indicate HE use. The inspection team did not find any craters or fractured, angular rocks among the glacial till, as would be expected if HE had been used. Additionally, the team did not locate any intact ordnance items or any signs of small arms use, either projectiles or small arms casings or evidence of parachute flares. The located OE generally occurred only on the higher parts of the island, with little to none found in the shallow water, though the team looked.

Before leaving, the team visited the northern island and the southern island to investigate their potential use by the military as additional targets. The team found no OE debris at either of these locations. Only the main, southern island had any soil or appreciable non-aquatic vegetation. The island is easily accessible as evidenced by pleasure craft in the area

The archive search uncovered evidence that the Navy Department used conventional ordnance at Weepecket Islands-U.S. Navy Bombing Practice Area. The types of ordnance and explosives associated with the site included: miniature practice bombs, 2.25-inch practice rockets, parachute flares and small arm machine gun rounds. The Navy fired and dropped this ordnance at the site's target area within the designated 1,000 yard danger zone.

The ASR team found evidence of ordnance and explosive debris from the Navy Department's use of Weepecket Islands-U.S. Navy Bombing Practice Area. Interviews disclosed incidents of ordnance or explosive debris being found in the past. The site inspection team confirmed the presence of the OE related debris but did not find direct evidence of HE use.

Based on this investigation, no evidence surfaced of chemical warfare materials storage, usage, or disposal at Weepecket Islands-U.S. Navy Bombing Practice Area. Furthermore, the mission of Weepecket Islands-U.S. Navy Bombing Practice Area does not imply the presence of CWM. Research discovered no historical records associating CWM with the site. Interviews did not disclose any correlation of CWM with the site. Additionally, the site inspection did not uncover any evidence of CWM hazards.

3.0 RECOMMENDATIONS

3.1 SUMMARY OF RECOMMENDATIONS

Appendix A contains the Risk Assessment Procedures for Ordnance and Explosives Sites form. Using the information available, this form resulted in a score of **RAC 3** for Weepecket Islands-U.S. Navy Bombing Practice Area. The site inspection team felt a RAC 4 maybe more appropriate.

Either way, a RAC **3** or **4** indicates further consideration by CEHNC. Further action recommendations into ordnance and explosives at Weepecket Islands-U.S. Navy Bombing Practice Area, typically an Engineering Evaluation/Cost Analyst (EE/CA), will originate from CEHNC.

3.2 OTHER ENVIRONMENTAL ACTIONS

The archive search did not reveal any additional areas of potential environmental concern associated with the military use of Weepecket Islands-U.S. Navy Bombing Practice Area.

3.3 PRELIMINARY ASSESSMENT ACTIONS

The archive search identified no additional preliminary assessment actions required as a result of investigating Weepecket Islands-U.S. Navy Bombing Practice Area.

APPENDIX A

RISK ASSESSMENT CODE PROCEDURE FORM

17 March 1995
Previous editions are obsolete

RISK ASSESSMENT PROCEDURE FOR
ORDNANCE AND EXPLOSIVES WASTE (OEW) SITES

Site Name *Weepecket Islands-U.S. Navy Bombing Practice Area* Rater's Name *Randal Curtis / George Sloan, III*

Site Location *Buzzard's Bay-Dukes County, MA* Phone No. *(314) 331-8786 / (314) 331-8796*

DERP Project# *D01MA056701* Organization *CEMVS-ED-P*

Date Completed *11 September 1997* RAC Score *3, with a recommendation for 4*

OEW RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritized the remedial action at Formerly Used Defense Sites. The risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential EXO hazards identified at the site. The risk assessment is composed of two factors, **hazard severity and hazard probability.** Personnel involved in visits to potential OEW sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

Part I. Hazard Severity. *Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting* from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE
(Circle all values that apply)

A. Conventional Ordnance and Ammunition

	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive (practice rockets)	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete Round (.22 cal - .50 cal)	1
Small Arms, Expended	0
Conventional Ordnance and Ammunition (Select the largest single value)	*6*

What evidence do you have regarding conventional UXO? *The site inspection team verified OE debris from miniature practice bombs and 2.25-inch practice rockets on only the middle island. They only identified practice rounds and found no direct evidence of HE use. Historical documents indicate that small arms strafing of the island also occurred, but no evidence, such as spent projectiles or empty cases were found during the site inspection.*

B. Pyrotechnics (For munitions not described above)

	VALUE
Munitions (Container) containing White Phosphorus or other Pyrophoric Material (i.e., Spontaneously Flammable)	10
Munitions Containing A Flame or Incendiary Material (i.e., Napalm, Triethylaluminum Metal Incendiaries)	6
Flares, Signals, Simulators, Screening Smokes (other than WP)	
Pyrotechnics (Select the largest single value)	*4*

What evidence do you have regarding pyrotechnics? *Historical documents indicate that the Navy dropped parachute flares on the island but no evidence of OE debris or intact items was discovered during the site inspection.*

C. Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized.)

	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Compositions A, B, C Tetryl, TNT, RDX, HMX, HBX, Black Powder, *etc.*)	8
Military Dynamite	6
Less Sensitive Explosives (*Ammonium Nitrate, Explosive D, etc.*)	3
High Explosives (Select the largest single value)	*0*

What evidence do you have regarding bulk explosives? *None. Evidence shows this site did not use or store these materials.*

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid of Liquid Propellants	6
Propellants	*0*

What evidence do you have regarding bulk propellants? *None. Evidence shows this site did not use or store these materials.*

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological (Select the largest single value)	*0*

What evidence do you have regarding chemical/radiological OEW? *None. Evidence shows this site did not use or store these materials.*

Total Hazard Severity Value
(Sum of the Largest Values for A through E--Maximum of 61) *10*
Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE		0

**If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF OEW HAZARD
(Circle all values that apply)

A. Location of OEW Hazards

	VALUE
On the surface	6
Within Tanks, Pipes, Vessels or Other confined locations	4
Inside walls, ceilings, or other parts of Buildings and Structures	3
Subsurface	2
Location (Select the single largest value)	5

What evidence do you have regarding location of OEW? *The site inspection team did not find any intact items on the surface of the gravel and rock island but potential OE hazards exist in the form of possible* malfunctioned spotting charges in the practice bombs and rockets or possible HE use.

B. Distance to nearest inhabited locations or structures likely to be at risk from OEW hazard (roads, playgrounds, and buildings).

	VALUE
Less than 1250 feet	5
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance (Select the single largest value)	2

What are the nearest inhabited structures? *Sporadic private residences exist just over one mile away.*

C. Numbers of buildings within a 2 mile radius measured from the OEW hazard area, not the installation boundary.

	VALUE
26 and over	5
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings (Select the single largest value)	2

Narrative *Sporadic private residences exists between 1 and 2 miles but the number is not thought to exceed 10.*

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings (Select the largest single value)	5

Describe types of buildings in the area. *Private residences exist within two miles of the potential OE hazard.*

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g. in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates, or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0
Accessibility (Select the single largest value)	*1*

Describe the site accessibility. *The site is a rock and gravel island just over a mile by water to the nearest residence on an adjacent island. However, lobstermen and pleasure boaters were present in the general area during the site inspection attesting to the accessibility.*

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics (Select largest value)	*0*

Describe the site dynamics. *The site is a gravel and boulder island with no extremely limited development potential.*

Total Hazard Probability Value
(Sum of Largest Values for A through F--Maximum of 30) *15*
Apply this value to Hazard Probability Table 2 to determine Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

*** Apply Hazard Probability Level to Table 3.**

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level	FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:					
CATASTROPHIC I	1	1	2	3	4
CRITICAL II	1	2	3	4	5
MARGINAL III	2	3	4	4	5
NEGLIGIBLE IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

RAC 1	Expedite INPR, recommending further action by CEHND - Immediately call CEHND-OE-ES - Commercial 205-895-1582.
RAC 2	High priority on completion of INPR - Recommend further action by CEHND.
RAC 3	Complete INPR - Recommend further action by CEHND.
RAC 4	Complete INPR - Recommend further action by CEHND.
RAC 5	Usually indicates that no further action (NOFA)is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The RAC score assigned to Weepecket Islands-U.S. Navy Bombing Practice Area is 3.

Part I received a Hazard Severity Rating of "Critical", Part II received a Hazard Probability Rating of "Occasional". According to table 3, these ratings convert to a Risk Assessment Code of 3.

The use of parachute flares in the past warranted a Hazard Severity rating of "Critical" versus "Marginal", though the site inspection team feels the additive effect of different types of munitions exaggerated the hazard severity for this project. A "Marginal" rating seems more appropriate, which would have resulted in an RAC score of 4.

APPENDIX B

ABBREVIATIONS, ACRONYMS AND BREVITY CODES

ABBREVIATIONS, ACRONYMS AND BREVITY CODES

AAF*	Army Air Field
AA	Anti-Aircraft
AEC	Army Environmental Center
AFB	Air Force Base
AMC	Army Materiel Command
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Anti-personnel
AP-T	Armor Piercing-Tracer
ASR	Archive Search Report
aux	auxiliary
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CADD	Computer-Aided Drafting and Design
cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHNC	Corps of Engineers, Huntsville Engineering and Support Center
CEMVS	Corps of Engineers, Mississippi Valley-St. Louis District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
COE	Chief of Engineers
ctg	Cartridge
CWM	Chemical Warfare Material
CWS*	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
FDE	Findings and Determination of Eligibility

FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GIS	Geographic Information System
GPS	Global Positioning Satellite
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	High Explosive Plastic
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
INPR	Inventory Project Report
IRP	Installation Restoration Program
MCX	Mandatory Center of Expertise
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAVSEA	Naval Sea Systems Command
NAS*	Naval Air Station
NCP	National Contingency Plan
NEW	Net Explosive Weight
NG	National Guard
NPL	National Priorities List
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NWS	National Weather Service
OE	Ordnance and Explosives
OP	Ordnance Pamphlet
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
QASAS	Quality Assurance Specialist Ammunition Surveillance
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
SSHO	Site Safety and Health Officer

SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
TECOM	Test Evaluation Command
TEU	United States Army Technical Escort Unit
TM	Technical Manual
TNT	Trinitrotoluene
TP	Target Practice
U.S.	United States (of America)
USA	United States Army
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAESCH	U.S. Army Engineering and Support Center, Huntsville, AL
USAFHRA	U.S. Air Force Historical Research Agency
USATHMA	U.S. Army Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
WAA*	War Assets Administration
WD*	War Department
WNRC	Washington National Records Center

* designates a historic acronym

APPENDIX C

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REPORT DISTRIBUTION LIST

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PLATES